

RIGHT-OF-WAY AREA FILE PROCEDURE

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Overview

This procedure covers the creation of the ROARE file along with manual parcel hatching for use in R/W Plan Production.

Process Provenance

- Date of development: 11/12/2024
- Revision date: *N/A*
- Application/Tool(s): *AutoCAD / Civil 3D*
- Version(s): *Civil 3D 2024*
- Environment(s): *MDT Civil 3D State Kit r2024 v2.21*
- Contact: [Open a Case](#)

Area File Procedure

Section I. Creating the Area File

Preface

The Area file is unique to R/W to aid file size management for better performance while in Civil 3D. The Area file is also utilized for GIS Mapping and Parcel Ownership Data.

Create the Area File

Create a new drawing using the 'Design-Start.dwt' Template and save the file according to the Standard Naming Convention 'XXXXX00XROARE001.dwg' in the Autodesk Docs Project RO folder.

Assign a Coordinate System to the drawing -> predominately NSRS2011.MTIF (6515) will be used, check with the Project Manager or Project Reports for the appropriate Coordinate System.

Set the working layer to X-MISC, then XREF the ROMAP drawing file into the Area. Do not Attach, select Overlay for XREF.

Freeze any information (PC/PT Stations, Monuments, Labels, Text, Ownership Dots, etc...) that is not needed by selecting Freeze from the Layers ribbon of the Home Tab. A Layer State will be produced at a later date to aid in removing irrelevant information to the parcel areas.

Section II. Hatching Areas Manually

Using Hatch Command to Create Areas

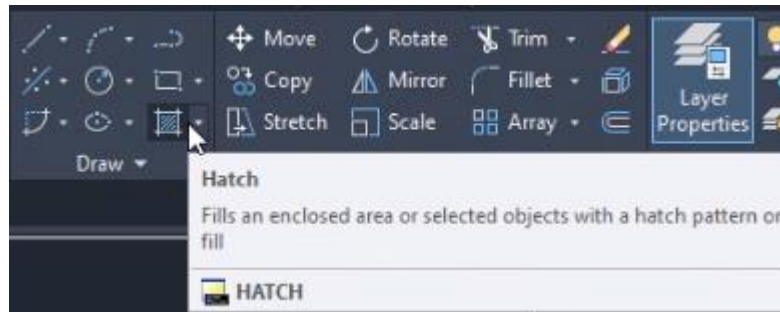
Base layers have been set up for each type of acquisition.

- Right-of-Way = RR-AREA-RWAY
- Existing Right-of-Way = RR-AREA-RWAY-E
- Construction Permit = RR-AREA-PMIT
- Easement = RR-AREA-ESMT
- Miscellaneous = RR-AREA-MISC

Create a layer for the parcel number and type of acquisition. For example, proposed right-of-way on Parcel 3 would be on layer RR-AREA-RWAY_PAR003 and construction permit areas on Parcel 3 would be RR-AREA-PMIT_PAR003.

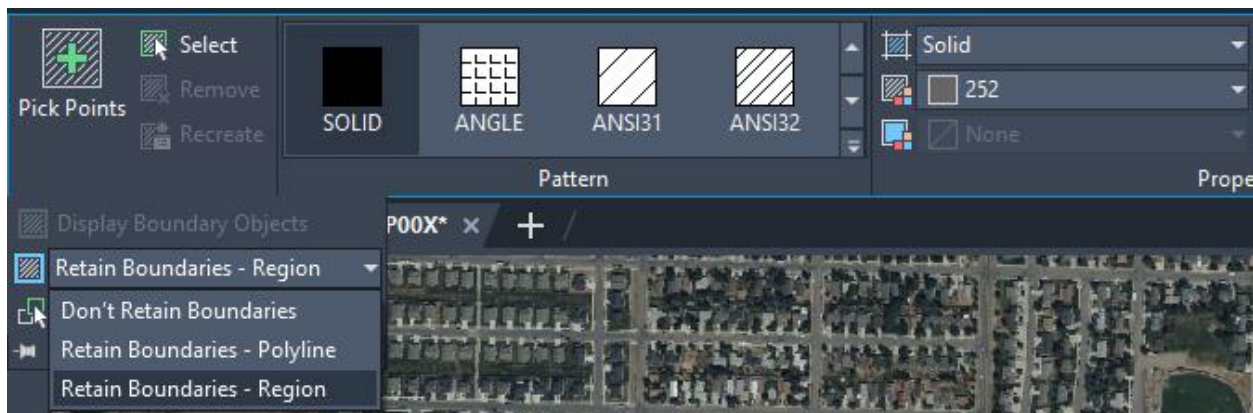
Layer colors can be changed from the base layer as desired. Layer colors that do not end in a 5 (15, 25, 35, etc.) will need to be overridden in the exhibit files to plot light gray, color 252. Colors 250-255 will plot true to the color as displayed.

On the Home tab under the Draw panel select Hatch



Set the Pattern to SOLID, change the Boundaries to 'Retain Boundaries - Region'

Verify the active layer, then select an internal point on the parcel.



If an message come up saying "a closed boundary could not be determined" create a boundary to make a closed shape. If the area is along strait lines, trace the shape with a polyline and close the polyline. If the area is along a curve, use NCOPY to copy lines from reference files in place, unload the reference files and use the Modify tools to create a closed shape. After the closed boundary has been created use the directions above to create a hatch (fill area).

To hatch an easement area – select the Hatch command and set the Pattern to ANSI31. The hatch scale will need to be adjusted to half of the scale of the plan sheets. If the plan sheets are 1"=100' set the hatch scale to 50 (urban) and if the plan sheets are 1"=200' set the hatch scale to 100 (rural). ANSI137 is the cross hatch pattern.

Island detection on hatch patterns can be set to your preference in the Option dropdown within Hatch Creation.

Section III. Measuring Areas

Viewing Properties

Areas can be quickly measured by selecting the area, right clicking and selecting properties. The area will appear in square feet. If multiple areas are selected the total area will be given.

Measuring Areas by Points

From the Analyze tab, Inquiry ribbon, select Area. This is like Measure by Points in MicroStation.

Section IV. Major Area File Change Notification

The Area file and subsequent workflow notes will be majorly modified in 2026 to aid in Digital Delivery efforts. The complexity of the Area file will increase however additional tools are in development to refine workflows and reduce dual entry of data (e.g. Ownership Excel Sheet replacement with Autodesk Table from Owner Information in Area File). The area file will become the single source of truth for many downstream processes.